

What is claimed is:

1. A slide coupling fitting for connecting a tubular conduit, comprising:

a tubular body having a central passage defining a central axis, two opposing open ends, and an external threaded section on an exterior of said tubular body adjacent to each open end; and

two tubular sliding couplers, each having an internal diameter slightly larger than an external diameter of said tubular body, and each being connected to one of said open ends of said tubular body, respectively; each said tubular sliding coupler having an internal threaded section adjacent to an inner end which is closer to a longitudinal center of said tubular body, and a smooth interior at an opposing outer end for slidably engaging a tubular conduit; said internal threaded section being complementary to said external threaded section of said tubular body for mutual engagement.

2. The slide coupling fitting of Claim 1, wherein said tubular body further comprises at said each open end a seal groove extending about said central axis and a seal member which is disposed within said seal groove and extends therefrom to sealingly engage an interior periphery of said tubular sliding coupler; each said seal groove being disposed between said external threaded section and said open end on one corresponding side of said tubular body, respectively.

3. The slide coupling fitting of Claim 2, wherein said tubular body further comprises at said each open end an external block section extending about said central axis on the exterior of said tubular body; and each said external block section being disposed between said seal groove and said external threaded section on one corresponding side of said tubular body, respectively, for assisting positioning of said sliding coupler along said tubular body when engaging said internal threaded section with said external threaded section.

4. The slide coupling fitting of Claim 2, wherein said tubular body further comprises a stopper extending about said central axis on the exterior of said tubular body disposed at approximately a longitudinal center of said tubular body.

5. The slide coupling fitting of Claim 2, wherein each of said tubular sliding couplers further comprises a internal block section extending about a central axis of said tubular sliding coupler and disposed at said inner end and in contact with a front end of said internal threaded section for assisting positioning of said sliding coupler along said tubular body when engaging said internal threaded section with said external threaded section; and said internal block section has a diameter approximately equivalent to an outside diameter of said internal threaded section.

6. A slide coupling fitting for connecting a tubular conduit, comprising:

a tubular body having a central passage defining a central axis, two opposing open ends, an external threaded section on an exterior of said tubular body near each open end, and a middle opening having a center in perpendicular to said central axis;

a middle coupler comprising a tubular connector extending perpendicular to said central axis of said tubular body; one end of said tubular connector being fluid-tight connected to said tubular body and an opposing open coupling end for receiving a tubular conduit; and a central axis of said tubular connector being aligned with said center of said middle opening; and

two tubular sliding couplers, each having an internal diameter slightly larger than an external diameter of said tubular body, and each being connected to one of said open ends of said tubular body, respectively; said each tubular sliding coupler having an internal threaded section adjacent to an inner end which is closer to a longitudinal center of said tubular body, and a smooth interior at an opposing outer end for slidably engaging a tubular

conduit; said internal threaded section being complementary to said external threaded section of said tubular body for mutual engagement.

7. The slide coupling fitting of Claim 6, wherein said tubular body further comprises at said each open end a seal groove extending about said central axis and a seal member which is disposed within said seal groove and extends therefrom to sealingly engage an interior periphery of said tubular sliding coupler; each said seal groove being disposed between said external threaded section and said open end on one corresponding side of said tubular body, respectively.

8. The slide coupling fitting of Claim 7, wherein said tubular body further comprises at said each open end an external block section extending about said central axis on the exterior of said tubular body; and each said external block section being disposed between said seal groove and said external threaded section on one corresponding side of said tubular body, respectively, for assisting positioning of said sliding coupler along said tubular body when engaging said internal threaded section with said external threaded section.

9. The slide coupling fitting of Claim 7, wherein each of said tubular sliding couplers further comprises a internal block section extending about a central axis of said tubular sliding couplers and disposed at said inner end and in contact with a front end of said internal threaded section, for assisting positioning of said sliding coupler along said tubular body when engaging said internal threaded section with said external threaded section; and said internal block section has a diameter approximately equivalent to an outside diameter of said internal threaded section.

10. A slide coupling fitting for connecting a tubular conduit, comprising:

a tubular body having a central passage defining a central axis, a first

open end, an external threaded section on an exterior of said tubular body near said first open end, and an opposing second open end; and

a tubular sliding coupler having an internal diameter larger than an external diameter of said tubular body, and being connected to said first open end of said tubular body; said tubular sliding coupler having an internal threaded section adjacent to an inner end which is closer to a longitudinal center of said tubular body, and a smooth interior at an opposing outer end for slidably engaging a first tubular conduit; said internal threaded section being complementary to said external threaded section of said tubular body for mutual engagement.

11. The slide coupling fitting of Claim 10, wherein said second end of said tubular body further comprises a tubular connector which is coaxially and fluid-tight connected to said second open end of said tubular body at one end, and with an opposing coupling end for receiving a second tubular conduit.

12. The slide coupling fitting of Claim 11, wherein said tubular body further comprises a seal groove extending about said central axis and a seal member which is disposed within said seal groove and extends therefrom to sealingly engage an interior periphery of said tubular sliding coupler; said seal groove being disposed between said external threaded section and said first open end.

13. The slide coupling fitting of Claim 12, wherein said tubular body further comprises an external block section extending about said central axis on the exterior of said tubular body, and being disposed between said seal groove and external threaded section for assisting positioning of said sliding coupler along said tubular body when engaging said internal threaded section with said external threaded section.

14. The slide coupling fitting of Claim 12, wherein said tubular body further comprises a stopper extending about said central axis on the exterior of

said tubular body disposed at approximately a longitudinal center of said tubular body.

15. The slide coupling fitting of Claim 12, wherein said tubular sliding coupler further comprises an internal block section extending about a central axis of said tubular sliding coupler and disposed at said inner end and in contact with a front end of said internal threaded section for assisting positioning of said sliding coupler along said tubular body when engaging said internal threaded section with said external threaded section; and said internal block section has a diameter approximately equivalent to an outside diameter of said internal threaded section.

16. The slide coupling fitting of Claim 11 further comprising:
a middle opening on said tubular body, said middle opening having a center in perpendicular to said central axis of said tubular body; and
a middle coupler comprising a tubular connector extending perpendicular to said central axis of said tubular body; one end of said tubular connector being fluid-tight connected to said tubular body and an opposing open coupling end for receiving a tubular conduit; and a central axis of said tubular connector being aligned with said center of said middle opening.

17. The slide coupling fitting of Claim 16, wherein said tubular body further comprises a seal groove extending about said central axis and a seal member which is disposed within said seal groove and extends therefrom to sealingly engage an interior periphery of said tubular sliding coupler; said seal groove being disposed between said external threaded section and said first open end.

18. The slide coupling fitting of Claim 17; wherein said tubular body further comprises a external block section extending about said central axis on the exterior of said tubular body, and being disposed between said seal groove and external threaded section for assisting positioning of said sliding coupler

along said tubular body when engaging said internal threaded section with said external threaded section.

19. The slide coupling fitting of Claim 17, wherein said tubular sliding coupler further comprises an internal block section extending about a central axis of said tubular sliding coupler and disposed at said inner end and in contact with a front end of said internal threaded section for assisting positioning of said sliding coupler along said tubular body when engaging said internal threaded section with said external threaded section; and said internal block section has a diameter approximately equivalent to an outside diameter of said internal threaded section.

20. A method of connecting a fitting to a tubular conduit comprising the steps of:

providing a fitting comprising a tubular body having a central passage, a first open end, a first external threaded section on an exterior of said tubular body near said first open end; and a first tubular sliding coupler connected to said first open end of said tubular body; said first sliding coupler having a first internal threaded section adjacent to a first inner end which is closer to a longitudinal center of said tubular body, and a smooth interior at an opposing first outer end; wherein said internal diameter of said first outer end is complementary to said external diameter of a first tubular conduit to be connected;

applying an adhesive on said smooth interior of said first outer end of said first sliding coupler;

engaging said fitting with said first tubular conduit by having said first open end toward an end of said first fluid conduit, then sliding said first sliding coupler outwardly along said tubular body to snuggly encase an end section of said first tubular conduit; and

turning said first sliding coupler around said tubular body to engage said first internal threaded section with said first external threaded section, with an advancing direction toward said first tubular conduit; and

thereby said sliding coupler forms a fluid-tight connection with said first tubular conduit at said first outer end and forms a fluid-tight connection with said tubular body at said first inner end.

21. The method of Claim 20 further comprising steps of:

providing said fitting which further comprises a second open end, a second external threaded section on an exterior of said tubular body near said second open end; and a second tubular sliding coupler connected to said second open end of said tubular body; said second sliding coupler having a second internal threaded section adjacent to a second inner end which is closer to said longitudinal center of said tubular body, and a smooth interior at an opposing second outer end; wherein said internal diameter of said second outer end is complementary to said external diameter of a second tubular conduit to be connected;

applying an adhesive on said smooth interior of said second outer end of said second sliding coupler;

engaging said fitting with said second tubular conduit by having said second open end toward an end of said second fluid conduit, then sliding said second sliding coupler outwardly along said tubular body to snuggly encase an end section of said second tubular conduit by said second outer end; and

turning said second sliding coupler around said tubular body to engage said second internal threaded section with said second external threaded section, with an advancing direction toward said second tubular conduit; and

thereby the sliding coupler forms a fluid-tight connection with the first tubular conduit at the first outer end and forms a fluid-tight connection with the tubular body at the first inner end.